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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/085,140	03/01/2002	William A. Crossland	124-931	3967

7590 12/31/2003  
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EXAMINER

NGUYEN, DAO H

ART UNIT PAPER NUMBER

2818

DATE MAILED: 12/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/085,140

Applicant(s)

CROSSLAND ET AL.

Examiner

Dao H Nguyen

Art Unit

2818

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 4-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 7,8,12 and 13 is/are rejected.
- 7) ☒ Claim(s) 1,2,4-6,9-11 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

1. In response to the communications dated 10/14/2003, claims 1-2, 4-16 are active in this application as a result of the addition of claims 11-16 and the cancellation of claims 3.

### **Remarks**

2. Applicant's arguments with respect to claims 1-2, and 4-16 have been considered but are moot in view of the new ground(s) of rejection.

### **Claim Rejections - 35 USC § 112**

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim(s) 1-2, and 4-16 is/are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claims 1 and 2, the limitation(s) "a semiconductor active backplane including an array of addressable active elements ... for selectively energizing respective first electrodes of the array" is/are not clearly defined and distinctly pointed

out the subject matter which is/are claimed as the Applicant's invention. It is vague of how the array of active elements energize electrodes of themselves?

Regarding claims 7 and 8, the limitation(s) "a semiconductor active backplane including an array of addressable active elements ... for energizing respective first electrodes" is/are not clearly defined and distinctly pointed out the subject matter which is/are claimed as the Application's invention. Are the respective electrodes included in the backplane? Are they part of the active elements or are they separated from the active elements and/or the packplane?

Claim 4-6, 9-16 depend from rejected claims 1-2 and 7-8 and include all of the limitations of claims 1-2 and 7-8 thereby rendering these dependent claims indefinite.

### **Claim Rejections - 35 U.S.C. § 103**

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claim(s) 7-8, and 12-13 is/are rejected under 35 U.S.C. 103 (a) as being unpatentable over U.S. Patent No. 6,570,550 to Handschy et al., in view of the following remarks.

Regarding claims 7 and 8, Handschy discloses a semiconductor active backplane, as shown in figures 1-4, including an array of addressable active elements 46 on a semiconductor substrate 40 for energizing respective first electrodes, and first and second orthogonal sets of addressing conductors 52, 54 in the form of a metallic conductor, a respective pair of addressing conductors 52, 54, one from each set, being associated with the addressing of a corresponding active element. ee figures 1, 3, and 4, and column 8, line 23 to column 9, line 23.

Handschy does not explicitly discuss that substantially the whole of each active element 46 is covered by at least one, or a pair of the addressing conductors 52, 54.

However, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Handschy so that all or either of the addressing conductors, or bit lines and word lines 52, 54 being formed to cover the whole of each active element, because those skilled in the art will recognize that such modification and variations can be made without departing from the spirit of the invention of Handschy, and that such modification involve only routine skills in the art; Furthermore, such formation(s) is/are very well known in the art.

Regarding claims 12 and 13, Handschy discloses the backplane wherein the array of active elements is covered by an insulating layer, each said active element being connected to a metal electrode on said insulating layer, the array of said metal electrodes thus formed covering more than 65% of the are of said array. See figures 1, 3.

#### **Allowable Subject Matter**

7. Claim(s) 1-2, 4-6, 9-11, and 14-16 would be allowed if rewritten to overcome the rejection under 35 USC § 112 and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reason for the indication of allowable subject matter:

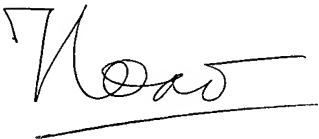
Claim(s) 1-2, 4-6, 9-11, and 14-16 is/are considered allowable since the prior made of record and considered pertinent to the applicant's disclosure does not teach or suggest the claimed semiconductor active backplane wherein a depletion region is formed in part of the region beneath at least one of the electrodes of the array, and at least one charge trapping implant is provided adjacent but spaced apart from the depletion region (claim 1), or a guard ring is provided over or around the periphery of the depletion region to prevent or hinder charge carriers from crossing between the depletion region and the rest of the substrate (claim 2).

### Conclusion

8. A shortened statutory period for response to this action is set to expire 3 (three) months and 0 (zero) day from the day of this letter. Failure to respond within the period for response will cause the application to become abandoned (see M.P.E.P 710.02(b)).

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dao H. Nguyen whose telephone number is (703)305-1957 (before January 08, 2004), or (571)272-1791 (after January 08, 2004). The examiner can normally be reached on Monday-Friday, 9:00 AM – 6:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on (703)308 – 4910 (before January 08, 2004), or (571)272-1787 (after January 08, 2004). The fax numbers for all communication(s) is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



Dao H. Nguyen  
Art Unit 2818  
December 16, 2003



HOAI HO  
PRIMARY EXAMINER